

In the Claims:

1 – 7 cancelled.

8. (currently amended) A ball bearing comprising an inner race having an outer peripheral surface formed with an inner-race track, an outer race having an inner peripheral surface formed with an outer-race track, a plurality of balls rollably provided between the inner-race track and the outer-race track, a retainer for rollably holding the balls, the retainer having a surface on one axial side thereof and inner and outer peripheral surfaces, and a seal plate opposing the surface on the one axial side of the retainer and having a surface on one axial side thereof and an outer peripheral edge attached to the inner peripheral surface of the outer race at an axial end of the outer race and an inner peripheral edge in sliding contact with or close to the outer peripheral surface at an axial end of the inner race, the outer peripheral surface of the inner race having a radially inner shoulder portion adjacent the axially outer side of the outer-race track and having a diameter larger than the inner-race track so as to face the inner peripheral surface of the retainer such that a radially inner annular gap with a radial size is formed between the radially inner shoulder portion and the inner peripheral surface of the retainer, an annular gap being formed between the surface on the axial side of the retainer and the surface on the one axial side of the seal plate, the inner peripheral surface of the outer race having a radially outer shoulder portion adjacent the axially outer side of the outer-race track and having a diameter smaller than the outer-race track so as to face the outer peripheral surface of the retainer such that a radially outer annular gap with a radial size is formed between the radially outer shoulder portion and the outer peripheral surface of the retainer, the annular gap between the surface on the one axial side of the retainer and the surface on the one axial side of seal plate having a size at its inner periphery and an axial size at its radially middle portion, wherein an inner peripheral surface of

the outer peripheral edge of the seal plate is inclined radially outward in the axially inner direction, and wherein provided that L_1 is the radial size of the radially inner annular gap, that the L_2 is the size of the annular gap at the inner periphery thereof, that L_3 is the axial size of radially middle portion of the annular gap, that L_4 is the radial size of the radially outer annular gap, and that D_4 is the diameter of the balls, the following relations are satisfied;

$$L_1 \leq L_2 \leq L_3,$$

$$1.5L_1 \leq L_3 \text{ or } 0.09D_4 \leq L_3,$$

$$L_1 \leq L_4, \text{ and}$$

$$1.5L_1 \text{ is substantially equal to } 0.09D_4.$$

9. (withdrawn) A ball bearing comprising an inner race having an outer peripheral surface formed with an inner-race track, an outer race having an inner peripheral surface formed with an outer-race track, a plurality of balls rollably provided between the inner-race track and the outer-race track, a retainer for rollably holding the balls, the cage having a surface on one axial side thereof and a seal plate opposing the surface on the one axial side of the retainer and having an outer peripheral edge attached to the inner peripheral surface of the outer race at an axial end thereof and an inner peripheral edge in sliding contact with or close to the outer peripheral surface at the axial end of the inner race, a radially inner shoulder portion provided on the outer peripheral surface of the inner race adjacent the axially outer side of the inner-race track and having an outer peripheral surface and a diameter larger than the inner-race track, and a seal groove provided on the outer peripheral surface of the inner race adjacent the axially outer side of the radially inner shoulder portion and having a axially inner wall surface, wherein provided that a first line extends from the outer peripheral surface of the radially inner shoulder portion in the cross sectional view including the central axis of the inner race and the outer race, and that a second line extends from the axially inner wall surface of the seal groove in the cross sectional view including the central axis of the inner race and the outer race so as to cross the first line at

an intersection, the intersection is not located inside of the surface on one axial side of the retainer with respect to the axial direction of the inner race and retainer.

10. (withdrawn) The ball bearing of Claim 9, wherein the retainer is of the crown type, and comprises an annular main portion having a surface on one axial side thereof and a plurality of elastic pieced provided on the surface on the one axial side of the annular main portion, and the inner-race track and outer-race track and balls are displaced more remote from the main portion than the axially central portion of the inner race and outer race.

11. (withdrawn) A ball bearing comprising an inner race having an outer peripheral surface formed with an inner-race track, an outer race having an inner peripheral surface formed with an outer-race track, a plurality of balls rollably provided between the inner-race track and the outer-race track, a retainer for rollably holding the balls, the retainer having a surface on one axial side thereof and a seal plate opposing the surface on the one axial side of the retainer and having an outer peripheral edge attached to the inner peripheral surface of the outer race at an axial end thereof and an inner peripheral edge in sliding contact with or close to the outer peripheral surface at the axial end of the inner race, a radially inner shoulder portion provided on the outer peripheral surface of the inner race adjacent the axially outer side of the inner-race track and having a diameter larger than the inner-race track so as to face the inner peripheral surface of the retainer, such that a radially inner annular gap with a radial size is formed between the radially inner shoulder portion and the inner peripheral surface of the retainer, and the seal plate having an end edge adjacent the inner peripheral edge thereof, wherein provided that L1 is the radial size of the radially inner annular gap, that a first line extends from the outer peripheral surface of the radially inner shoulder portion in the cross sectional view including the central axis of the

inner race and the outer race, and that a second line extends from the axially inner wall surface of the seal groove in the cross sectional view including the central axis of the inner race and the outer race so as to cross the first line at an intersection, that the end edge of the seal plate adjacent the inner peripheral edge thereof is the closest to the intersection, a gap is provided between the intersection and the end edge of the seal plate to have a size L_5 in the range of $0.5L_1 \leq L_5 \leq L_1$ direction of the inner race and seal plate.